Appl. No. 10/580,989
Amdt. dated May 25, 2010
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group 1649

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended)   A method for detecting or selecting a dopaminergic neuron and/or a progenitor cell thereof, wherein the method comprises the step of contacting a cellular sample with a ~~polynucleotide~~ nucleic acid that hybridizes under the washing conditions of 0.2x SSC and 0.1% SDS at ~~65~~ 68°C to a polynucleotide comprising the nucleotide sequence of SEQ ID NO: 13, 15, or 17 such that the nucleic acid hybridizes to the polynucleotide and does not hybridize to a polynucleotide of SEQ ID NO: 19, wherein the cellular sample comprises cells from the ventral midbrain of an animal.

2-8. (Cancelled)

9. (Currently Amended)   A method for detecting or selecting a dopaminergic neuron and/or a progenitor cell thereof, wherein the method comprises the steps of:

(a) contacting a cellular sample that comprises cells from the ventral midbrain of an animal with a ~~polynucleotide~~ nucleic acid that hybridizes under the washing conditions of 0.2x SSC and 0.1% SDS at ~~65~~ 68°C to a polynucleotide comprising the nucleotide sequence of SEQ ID NO: 13, 15, or 17 such that the nucleic acid hybridizes to the polynucleotide and does not hybridize to a polynucleotide of SEQ ID NO: 19, and

(b) contacting the cellular sample with one or more polynucleotides or one or more antibodies, wherein the polynucleotide hybridizes under the washing conditions of 0.2x SSC and 0.1% SDS at 65°C to a polynucleotide that encodes a protein selected from the group consisting of Lmx1b, Nurr1, En1, Ptx3, and TH, and wherein the antibody binds to the protein.

10. (Previously Presented)   The method of claim 9, which further comprises the step of:

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(c) contacting a cellular sample with one or more polynucleotides or one or more antibodies, wherein the polynucleotide hybridizes under the washing conditions of 0.2x SSC and 0.1% SDS at 65°C per wash to a polynucleotide that encodes a protein selected from DAT and ADH2 and wherein the antibody binds to the protein.

11. (Previously Presented)   The method of claim 9, wherein the protein is selected from the group consisting of Lmx1b, Nurr1, and En1.

12. (Currently Amended)   A method for detecting or selecting a dopaminergic neuron and/or a progenitor cell thereof, wherein the method comprises the steps of:

(a) contacting a cellular sample that comprises cells from the ventral midbrain of an animal with a ~~polynucleotide~~ nucleic acid that hybridizes the washing conditions of 0.2x SSC and 0.1% SDS at ~~65~~ 68°C to a polynucleotide comprising the nucleotide sequence of SEQ ID NO: 13, 15, or 17 such that the nucleic acid hybridizes to the polynucleotide and does not hybridize to a polynucleotide of SEQ ID NO: 19, and

(b) contacting the cellular sample with a polynucleotide that hybridizes with one or more polynucleotides or one or more antibodies, wherein the polynucleotide hybridizes under the washing conditions of 0.2x SSC and 0.1% SDS at 65°C to a polynucleotide that encodes a protein selected from the group consisting of DAT and ADH2 and wherein the antibody binds to the protein.

13-26. (Canceled)

27. (Previously Presented) A method for detecting or selecting a dopaminergic neuron and/or a progenitor cell thereof, wherein the method comprises the step of contacting a cellular sample with a polynucleotide comprising the complementary sequence of:

(1) the nucleotide sequence of SEQ ID NO: 13;

(2) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 14;

(3) the nucleotide sequence of SEQ ID NO: 15 or 17; or

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(4) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 16 or 18;

wherein the cellular sample comprises cells from the ventral midbrain of an animal.

28. (Previously Presented) A method for detecting or selecting a dopaminergic neuron and/or a progenitor cell thereof, wherein the method comprises the steps of:

(a) contacting a cellular sample that comprises cells from the ventral midbrain of an animal with a polynucleotide comprising the complementary sequence of:

(1) the nucleotide sequence of SEQ ID NO: 13;

(2) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 14;

(3) the nucleotide sequence of SEQ ID NO: 15 or 17; or

(4) the nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 16 or 18; and

(b) contacting the cellular sample with one or more polynucleotides or one or more antibodies, wherein the complementary sequence of each of the polynucleotides encodes a protein selected from the group consisting of Lmx1b, Nurr1, En1, Ptx3, and TH, and wherein each of the antibodies binds to the protein selected from said group.

29. (Previously Presented) The method of claim 28, which further comprises the step of:

(c) contacting the cellular sample with one or more polynucleotides or one or more antibodies, wherein the complementary sequence of each of the polynucleotides encodes a protein selected from DAT and ADH2, and wherein each of the antibodies binds to the protein selected from said group.

30. (Previously Presented) The method of claim 28, wherein the protein in step (b) is selected from the group consisting of Lmx1b, Nurr1, and En1.

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31. (Previously Presented) A method for detecting or selecting a dopaminergic neuron and/or a progenitor cell thereof, wherein the method comprises the steps of:

(a) contacting a cellular sample that comprises cells from the ventral midbrain of an animal with a polynucleotide comprising:

(1) the nucleotide sequence of SEQ ID NO: 13;

(2) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 14;

(3) the nucleotide sequence of SEQ ID NO: 15 or 17; or

(4) a nucleotide sequence encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 16 or 18; and

(b) contacting the cellular sample with one or more polynucleotides or one or more antibodies, wherein the complementary sequence of each of the polynucleotides encodes a protein selected from the group consisting of DAT and ADH2, and wherein each of the antibodies binds to the protein selected from said group.